



Introduction

EFI Data Analytics Workshop

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Enrico Fermi Institute



THE UNIVERSITY OF
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What are we trying to do?

There are enormous resources and diverse research activities all across the EFI – and indeed the PSD – that rely on computational infrastructure, analytics tools, and modern algorithms and analysis techniques...*whether or not they realize it!*

What we aim to do over the next three days is:

- Introduce a selection of those **tools and resources that are available and in use in various forms within the EFI** and its research groups
- Provide introductions and tutorials for **how to use these resources and software packages to students, postdocs and faculty** who are interested in them
- Foster **new ideas for using these resources in the research programs** of groups in the EFI
- Encourage **cross-pollination across research domains** within the EFI that might not otherwise have happened

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Overall Plan for the Workshop

- **Monday:**

- Discussion of projects for the workshop
- Overview of resources and infrastructure
- Modern Analysis Environments, Python, Jupyter, ROOT
- Pattern Recognition Algorithms and Machine Learning

- **Tuesday:**

- Introduction to statistical analysis tools
- Data visualization with ROOT, D3, Bokeh, and HoloViews
- **<AFTERNOON FOR UCHICAGO-FERMILAB CELEBRATION>**

- **Wednesday:**

- Introduction to distributed computing
- Introduction to ElasticSearch
- Synthesis of the work and discussion of future research

Round Table

Let's go around the room and introduce ourselves so that we're at least somewhat familiar with the audience and the interests:

- **Student, postdoc, staff, faculty?**
- **Research topics and experience?**
- **Particular interests for the workshop?**